This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1   1.   (Currently Amended) A method for correlating services within a computer network, the

2   method comprising:

3   providing a message interchange network for exchanging application-level messages

4   between services that are located outside the message interchange network, ~~the message~~

5   ~~interchange network~~ ~~being built on an open platform overlaying a public network and managing~~

6   ~~a plurality of services,~~;

7   registering, at the message interchange network, each of the plurality of services so that

8   each service is specified as being accessible by ~~a plurality of~~ one or more of the plurality of

9   services according to one or more properties and permissions associated with each of ~~service in~~

10   the plurality of services; ~~and~~

11   receiving, at the message interchange network, a plurality of application-level messages

12   that each specify one or more of the plurality of services that are to receive the each application-

13   level message and forwarding each received application-level message towards its specified

14   service according to the one or more properties and permissions associated with the specified

15   service;

16   ~~tracking~~ retaining correlation information regarding each application-level message

17   received into message interchange network, wherein the application-level messages are being

18   sent between pairs of the services, wherein the retained correlation information for each

19   application-level message pertains to each application-level message and any other application-

20   level messages related to the each application-level message, the retained correlation information

21   including one or more of: a Hop Identifier (ID) uniquely identifying a hop between a sender and

22   receiver of the each application-level message, call information regarding a call to which the

23   each application-level message and any other related application-level message belongs, ~~and~~ or

24   session information regarding a session to which the each application-level message and any

25   other related application-level message belongs, wherein the correlation information is retained

26   in a searchable format that is accessible by the message interchange network;

27   receiving, at the message interchange network, a query from a first service to search the

28   retained correlation information for a specific one or more portions of the retained correlation

29   information; and

30   sending, to the first service, a response to the query that includes the specific one or more

31   portions of the retained correlation information.

1   2.   (Cancelled)

1   3   (Cancelled)

1   4.   (Currently Amended) A ~~The~~ method as recited in claim 1, wherein the ~~message~~ retained

2   correlation information for each application-level message further includes an identification of

3   the each application-level message's sending service and receiving service.

1   5.   (Currently Amended) A ~~The~~ method as recited in claim 1, wherein the ~~message~~ retained

2   correlation information for each application-level message further includes an indication as to

3   whether the each application-level message has completed transmission.

1   6.   (Currently Amended)   A ~~The~~ method as recited in claim 5, wherein the ~~message~~ retained

2   correlation information for each application-level message further includes a reason or error log

3   regarding why the each application-level message has failed to complete its transmission if the

4   each application-level message has failed.

1   7.   (Currently Amended) A ~~The~~ method as recited in claim 1, wherein the ~~message~~ retained

2   correlation information for each application-level message further includes a portion of the each

3   message content.

1   8.   (Currently Amended) A ~~The~~ method as recited in claim 1, wherein the ~~message~~ retained

2   correlation information for each application-level message further includes two or more of the

3   following: an identification of the each application-level message's sending and receiving

4   service, an indication as to whether the each application-level message has completed

5   transmission, a reason or error log regarding why the each application-level message has failed

6   to complete its transmission if the each application-level message has failed, and a portion of the

7   each application-level message content, a size of the each application-level message, a topic of

8   the each application-level message, a status on processing steps taken on the each application-

9   level message, ~~and~~ or specification of any protocols used in receiving and sending the each

10   application-level message.

1   9.   (Previously Presented) A ~~The~~ method as recited in claim 1, wherein the call information

2   for each call includes a Call Identifier (ID) uniquely identifying the each call.

1   10.   (Currently Amended) ~~A~~ The method as recited in claim 9, wherein the call information
2   for each call further includes two or more of the following: an indication as to whether the each
3   call is complete and a reason for the call not being complete if the each call fails to complete, a
4   type of each call, a receiving and sending time for the each call, a sender and recipient service of
5   each call, a status of policy evaluation for each call, ~~and~~ or a set of hops in each call.

1   11.   (Previously Presented) ~~A~~ The method as recited in claim 1, wherein the session
2   information for each session includes a Session Identifier (ID) uniquely identifying the each
3   session.

1   12.   (Original) ~~A~~ The method as recited in claim 11, wherein the session information for each
2   session further includes an indication as to whether the each session is complete and a reason for
3   the session not being complete if the each session fails to complete.

1   13.   (Previously Presented) ~~A~~ The method as recited in claim 11, wherein the session
2   information for each session further includes a calculated or executed route for application-level
3   messages sent within the each session.

1   14.   (Original) ~~A~~ The method as recited in claim 11, wherein the session information for each
2   session further includes an identity and status of each service of the each session.

1   15.   (Currently Amended) ~~A~~ The method as recited in claim 11, wherein the session
2   information for each session further includes two or more of the following: an indication as to
3   whether the each session is complete and a reason for the session not being complete if the each
4   session fails to complete, a calculated or executed route for messages sent within the each
5   session, and an identity and status of each service of the each session, an initiating time and
6   completion time for each session, ~~and~~ or an indication of a set of calls in each session.

1   16.   (Currently Amended) ~~A~~ The method as recited in claim 1, wherein each application-level
2   message belongs to a particular call between two of the services.

1   17.   (Previously Presented) ~~A~~ The method as recited in claim 1, wherein each call includes a
2   request message and a response message or a notification message.

1   18.   (Previously Presented) ~~A~~ The method as recited in claim 1, wherein a call is defined as a

2   set of predefined application-level message types.

1   19.   (Previously Presented) ~~A~~ The method as recited in claim 1, wherein a session is

2   determined by the services which send application-level messages for the set of calls as a set of

3   calls.

1   20.   (Original) ~~A~~ The method as recited in claim 1, wherein at least some of services are

2   implemented on different computer systems and at least some of these computer systems differ

3   from a computer system which implements the message interchange network.

1   21.   (Currently Amended) ~~A~~ The method as recited in claim 1, wherein the ~~tracking~~ retaining

2   of correlating information comprises:

3   receiving a current application-level message at the message interchange network,

4   wherein the current application-level message belongs to a current session and a current call;

5   when the received current application-level message is a first message received for the

6   current session, assigning a session identifier for the current message and embedding the session

7   identifier in the current application-level message prior to forwarding the application-level

8   message to ~~its destination~~ the one or more service<u>s specified by the current application-level</u>

9   <u>message</u>;

10   when the received current application-level message is ~~a first message~~ received <u>first</u> for

11   the current call, assigning a call identifier for the current application-level message and

12   embedding the call identifier in the current application-level message prior to forwarding the

13   application-level message to ~~its destination~~ the one or more service<u>s specified by the current</u>

14   <u>application-level message</u>;

15   assigning a hop identifier for the current application-level message which uniquely

16   identifies the current application-level message; and

17   associating and storing the session identifier, the call identifier, and the hop identifier,

18   along with message information, call information, and session information for the received

19   application-level message.

1   22.   (Currently Amended) ~~A~~ The method as recited in claim 1, ~~further comprising:~~

2   ~~receiving a~~ <u>wherein the</u> query for <u>the retained</u> correlation information <u>is </u>regarding a

3   particular session or call~~, wherein the query is sent by a first one of the services~~; and

4   ~~sending~~ <u>wherein the specific portions of the retained</u> correlation information <u>that are sent</u>

5   to the first service <u>are</u> related to the particular session or call of the query.

1   23.   (Currently Amended) ~~A~~ <u>The</u> method as recited in claim 22, wherein <u>the specific one or</u>

2   <u>more portions of </u>the <u>retained</u> correlation information<u>, that are sent to the first service,</u> include~~s~~

3   information regarding application-level messages sent between more than two services.

1   24.   (Currently Amended) ~~A~~ <u>The</u> method as recited in claim 22, further comprising

2   determining whether the first service is authorized to make the query and only sending <u>the</u>

3   <u>specific one or more portions of the retained</u> correlation information <u>that are sent</u> to the first

4   service when it is determined that the first service is authorized.

1   25.   (Original) ~~A~~ <u>The</u> method as recited in claim 1, wherein at least one of the services is a

2   routing script.

1   26.   (Currently Amended) ~~A~~ <u>The</u> method as recited in claim 1, wherein the <u>retained</u>

2   correlation information includes at least one message identifier specified in at least one of the

3   application-level messages which is sent by a sending service, the method further comprising:

4   receiving a query for <u>the retained</u> correlation information regarding a particular message

5   identifier, wherein the query is sent by a ~~first~~ <u>second</u> one of the services; and

6   sending correlation information to the ~~first~~ <u>second</u> service related to the particular

7   message identifier of the query.

1   27.   (Currently Amended) A computer system operable to correlate services within a

2   computer network the computer system comprising:

3   one or more processors;

4   one or more memory, wherein at least one of the processors and memory are adapted for:

5   providing a message interchange network for exchanging application-level

6   messages between services <u>that are located outside the message interchange network</u>~~, the~~

7   ~~message interchange network being built on an open platform overlaying a public~~

8   ~~network and managing a plurality of services,~~<u>;</u>

9   registering, at the message interchange network, each of the plurality of services

10   so that each service is specified as being accessible by a plurality of one or more of the

11   plurality of services according to one or more properties and permissions associated with

12   each of service in the plurality of services; and

13   receiving, at the message interchange network, a plurality of application-level

14   messages that each specify one or more of the plurality of services that are to receive the

15   each application-level message and forwarding each received application-level message

16   towards its specified service according to the one or more properties and permissions

17   associated with the specified service;

18   tracking retaining correlation information regarding each application-level

19 message received into message interchange network, wherein the application-level

20 messages are being sent between pairs of the services, wherein the retained correlation

21 information for each application-level message pertains to each application-level message

22 and any other application-level messages related to the each application-level message,

23 the retained correlation information including one or more of: a Hop Identifier (ID)

24 uniquely identifying a hop between a sender and receiver of the each application-level

25 message, call information regarding a call to which the each application-level message

26 and any other related application-level message belongs, and or session information

27 regarding a session to which the each application-level message and any other related

28 application-level message belongs, wherein the correlation information is retained in a

29 searchable format that is accessible by the message interchange network;

30   receiving, at the message interchange network, a query from a first service to

31   search the retained correlation information for a specific one or more portions of the

32   retained correlation information; and

33   sending, to the first service, a response to the query that includes the specific one

34   or more portions of the retained correlation information.

1   28-29. (Cancelled)

1   30.   (Currently Amended) A The computer system as recited in claim 27, wherein the

2 message retained correlation information for each application-level message further includes two

3 or more of the following: an identification of the each application-level message's sending and

4 receiving service, an indication as to whether the each application-level message has completed

5 transmission, a reason or error log regarding why the each application-level message has failed

6   to complete its transmission if the each application-level message has failed, and a portion of the

7   each application-level message content, a size of the each application-level message, a topic of

8   the each application-level message, a status on processing steps taken on the each application-

9   level message, ~~and~~ or specification of any protocols used in receiving and sending the each

10   application-level message.

1   31.   (Previously Presented) ~~A~~ The computer system as recited in claim 27, wherein the call

2   information for each call includes a Call Identifier (ID) uniquely identifying the each call.

1   32.   (Currently Amended) ~~A~~ The computer system as recited in claim 31, wherein the call

2   information for each call further includes two or more of the following: an indication as to

3   whether the each call is complete and a reason for the call not being complete if the each call

4   fails to complete, a type of each call, a receiving and sending time for the each call, a sender and

5   recipient service of each call, a status of policy evaluation for each call, ~~and~~ or a set of hops in

6   each call.

1   33.   (Previously Presented) ~~A~~ The computer system as recited in claim 27, wherein the

2   session information for each session includes a Session Identifier (ID) uniquely identifying the

3   each session.

1   34.   (Currently Amended) ~~A~~ The computer system as recited in claim 33, wherein the session

2   information for each session further includes two or more of the following: an indication as to

3   whether the each session is complete and a reason for the session not being complete if the each

4   session fails to complete, a calculated or executed route for messages sent within the each

5   session, and an identity and status of each service of the each session, an initiating time and

6   completion time for each session, ~~and~~ or an indication of a set of calls in each session.

1   35.   (Previously Presented) ~~A~~ The computer system as recited in claim 31, wherein each call

2   includes a request message and a response message or a notification message.

1   36.   (Previously Presented) ~~A~~ The computer system as recited in claim 27, wherein a call is

2   defined as a set of predefined application-level message types.

1   37.   (Original) ~~A~~ The computer system as recited in claim 36, wherein a session is

2   determined by the services which send application-level messages for the set of calls as a set of

3   calls.

1   38.   (Original) ~~A~~ The computer system as recited in claim 27, wherein at least some of

2   services are implemented on difference computer systems and at least some of these computer

3   systems differ from a computer system which implements the message interchange network.

1   39.   (Currently Amended) ~~A~~ The computer system as recited in claim 27, wherein the

2   ~~tracking~~ retaining of correlating information comprises:

3   receiving a current application-level message at the message interchange network,

4   wherein the current application-level message belongs to a current session and a current call;

5   when the received current application-level message is a first message received for the

6   current session, assigning a session identifier for the current message and embedding the session

7   identifier in the current application-level message prior to forwarding the application-level

8   message to ~~its destination~~ the one or more services specified by the current application-level

9   message;

10   when the received current application-level message is ~~a first message~~ received first for

11   the current call, assigning a call identifier for the current application-level message and

12   embedding the call identifier in the current application-level message prior to forwarding the

13   application-level message to ~~its destination~~ the one or more services specified by the current

14   application-level message;

15   assigning a hop identifier for the current application-level message which uniquely

16   identifies the current application-level message; and

17   associating and storing the session identifier, the call identifier, and the hop identifier,

18   along with message information, call information, and session information for the received

19   application-level message.

1   40.   (Currently Amended) ~~A~~ The computer system as recited in claim 27, ~~wherein the at least~~

2   ~~one of the processors and memory are further adapted for:~~

3   ~~receiving a~~ wherein the query for the retained correlation information is regarding a

4   particular session or call~~, wherein the query is sent by a first one of the services~~; and

5   ~~sending~~ wherein the specific portions of the retained correlation information that are sent

6   to the first service are related to the particular session or call of the query.

1   41.   (Previously Presented) ~~A~~ The computer system as recited in claim 27, wherein at least

2   one of the services is a routing script.

1   42.   (Currently Amended) A computer program product for correlating services within a

2   computer network, the computer program product comprising:

3   at least one computer readable medium;

4   computer program instructions stored within the at least one computer readable medium

5   configured for:

6   providing a message interchange network for exchanging application-level

7   messages between services that are located outside the message interchange network~~, the~~

8   ~~message interchange network being built on an open platform overlaying a public~~

9   ~~network and managing a plurality of services,~~;

10   registering, at the message interchange network, each of the plurality of services

11   so that each service is specified as being accessible by ~~a plurality of~~ one or more of the

12   plurality of services according to one or more properties and permissions associated with

13   each of ~~service in~~ the plurality of services; ~~and~~

14   receiving, at the message interchange network, a plurality of application-level

15   messages that each specify one or more of the plurality of services that are to receive the

16   each application-level message and forwarding each received application-level message

17   towards its specified service according to the one or more properties and permissions

18   associated with the specified service;

19   ~~tracking~~ retaining correlation information regarding each application-level

20   message received into message interchange network, wherein the application-level

21   messages are being sent between pairs of the services, wherein the retained correlation

22   information for each application-level message pertains to each application-level message

23   and any other application-level messages related to the each application-level message,

24   the retained correlation information including one or more of: a Hop Identifier (ID)

25   uniquely identifying a hop between a sender and receiver of the each application-level

26   message, call information regarding a call to which the each application-level message

27   and any other related application-level message belongs, ~~and~~ or session information

28   regarding a session to which the each application-level message and any other related

29   application-level message belongs, wherein the correlation information is retained in a

30   searchable format that is accessible by the message interchange network;

31   receiving, at the message interchange network, a query from a first service to
32   search the retained correlation information for a specific one or more portions of the
33   retained correlation information; and
34   sending, to the first service, a response to the query that includes the specific one
35   or more portions of the retained correlation information.

1   43-44. (Cancelled)

1   45.   (Currently Amended) ~~A~~ The computer program product as recited in claim 42, wherein
2   the ~~message~~ retained correlation information for each application-level message further includes
3   an identification of the each application-level message's sending service and receiving service.

1   46.   (Currently Amended) ~~A~~ The computer program product as recited in claim 42, wherein
2   the ~~message~~ retained correlation information for each application-level message further includes
3   an indication as to whether the each application-level message has completed transmission.

1   47.   (Currently Amended) ~~A~~ The computer program product as recited in claim 46, wherein
2   the ~~message~~ retained correlation information for each application-level message further includes
3   a reason or error log regarding why the each application-level message has failed to complete its
4   transmission if the each application-level message has failed.

1   48.   (Currently Amended) ~~A~~ The computer program product as recited in claim 42, wherein
2   the ~~message~~ retained correlation information for each application-level message further includes
3   a portion of the each message content.

1   49.   (Currently Amended) ~~A~~ The computer program product as recited in claim 42, wherein
2   the ~~message~~ retained correlation information for each application-level message further includes
3   two or more of the following: an identification of the each application-level message's sending
4   and receiving service, an indication as to whether the each application-level message has
5   completed transmission, a reason or error log regarding why the each application-level message
6   has failed to complete its transmission if the each application-level message has failed, and a
7   portion of the each application-level message content, a size of the each application-level
8   message, a topic of the each application-level message, a status on processing steps taken on the

9   each application-level message, ~~and~~ <u>or</u> specification of any protocols used in receiving and

10   sending the each application-level message.

1   50.   (Previously Presented) ~~A~~ <u>The</u> computer program product as recited in claim 42, wherein

2   the call information for each call includes a Call Identifier (ID) uniquely identifying the each

3   call.

1   51.   (Original) ~~A~~ <u>The</u> computer program product as recited in claim 50, wherein the call

2   information for each call further includes two or more of the following: an indication as to

3   whether the each call is complete and a reason for the call not being complete if the each call

4   fails to complete, a type of each call, a receiving and sending time for the each call, a sender and

5   recipient service of each call, a status of policy evaluation for each call, and a set of hops in each

6   call.

1   52.   (Previously Presented) ~~A~~ <u>The</u> computer program product as recited in claim 42, wherein

2   the session information for each session includes a Session Identifier (ID) uniquely identifying

3   the each session.

1   53.   (Original) ~~A~~ <u>The</u> computer program product as recited in claim 52, wherein the session

2   information for each session further includes an indication as to whether the each session is

3   complete and a reason for the session not being complete if the each session fails to complete.

1   54.   (Previously Presented) ~~A~~ <u>The</u> computer program product as recited in claim 52, wherein

2   the session information for each session further includes a calculated or executed route for

3   application-level messages sent within the each session.

1   55.   (Original) ~~A~~ <u>The</u> computer program product as recited in claim 52, wherein the session

2   information for each session further includes an identity and status of each service of the each

3   session.

1   56.   (Currently Amended) ~~A~~ <u>The</u> computer program product as recited in claim 52, wherein

2   the session information for each session further includes two or more of the following: an

3   indication as to whether the each session is complete and a reason for the session not being

4   complete if the each session fails to complete, a calculated or executed route for messages sent

5   within the each session, and an identity and status of each service of the each session, a initiating

6   time and completion time for each session, or an indication of a set of calls in each session.

1   57.   (Currently Amended) A The computer program product as recited in claim 42, wherein

2   each application-level message belongs to a particular call between two of the services.

1   58.   (Previously Presented) A The computer program product as recited in claim 42, wherein

2   each call includes a request message and a response message or a notification message.

1   59.   (Previously Presented) A The computer program product as recited in claim 42, wherein

2   a call is defined as a set of predefined application-level message types.

1   60.   (Previously Presented) A The computer program product as recited in claim 42, wherein

2   a session is determined by the services which send application-level messages for the set of calls

3   as a set of calls.

1   61.   (Original) A The computer program product as recited in claim 42, wherein at least some

2   of services are implemented on difference computer systems and at least some of these computer

3   systems differ from a computer system which implements the message interchange network.

1   62.   (Currently Amended) A The computer program product as recited in claim 42, wherein

2   the tracking retaining of correlating information comprises:

3   receiving a current application-level message at the message interchange network,

4   wherein the current application-level message belongs to a current session and a current call;

5   when the received current application-level message is a first message received for the

6   current session, assigning a session identifier for the current message and embedding the session

7   identifier in the current application-level message prior to forwarding the application-level

8   message to its destination the one or more services specified by the current application-level

9   message;

10   when the received current application-level message is a first message received first for

11   the current call, assigning a call identifier for the current application-level message and

12   embedding the call identifier in the current application-level message prior to forwarding the

13   application-level message to its destination the one or more services specified by the current

14   application-level message;

15   assigning a hop identifier for the current application-level message which uniquely

16   identifies the current application-level message; and

17   associating and storing the session identifier, the call identifier, and the hop identifier,

18   along with message information, call information, and session information for the received

19   application-level message.

1   63.   (Currently Amended) A̶ The computer program product as recited in claim 42, ~~wherein~~

2   ~~the computer program product is further configured for:~~

3   ~~receiving a~~ wherein the query for the retained correlation information is regarding a

4   particular session or call~~, wherein the query is sent by a first one of the services~~; and

5   ~~sending~~ wherein the specific portions of the retained correlation information that are sent

6   to the first service are related to the particular session or call of the query.

1   64.   (Currently Amended) A̶ The computer program product as recited in claim 63, wherein

2   the specific one or more portions of the retained correlation information, that are sent to the first

3   service, include~~s~~ information regarding application-level messages sent between more than two

4   services.

1   65.   (Currently Amended) A̶ The computer program product as recited in claim 63, wherein

2   the computer program product is further configured for determining whether the first service is

3   authorized to make the query and only sending the specific one or more portions of the retained

4   correlation information that are sent to the first service when it is determined that the first service

5   is authorized.

1   66.   (Original) A̶ The computer program product as recited in claim 42, wherein at least one

2   of the services is a routing script.

67.   (Currently Amended) A̶ The computer program product as recited in claim 42, wherein

the retained correlation information includes at least one message identifier specified in at least

one of the application-level messages which is sent by a sending service, ~~the method further~~

~~comprising:~~ and wherein the computer program product is further configured for:

      receiving a query for the retained correlation information regarding a particular message

identifier, wherein the query is sent by a ~~first~~ second one of the services; and

sending <u>a portion of the retained</u> correlation information to the ~~first~~ <u>second</u> service related to the particular message identifier of the query.